

PHILADELPHIA MEDICAL TIMES.

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ORIGINAL LECTURES.

CLINICAL LECTURE ON FRACTURES OF THE FEMUR.

Delivered at Bellevue Hospital, N.Y., November 7, 1877.

BY FRANK H. HAMILTON, M.D.

Reported by P. BRYNBERG PORTER, M.D.

GENTLEMEN,—On entering upon my term of service at the Hospital on the 1st of the month, I found ten cases of fracture of the shaft of the femur in the wards. A number of these I propose to bring before you to-day; but, in order that you may properly appreciate the principles involved in their treatment, it will be necessary for me first to call your attention briefly to the progress which has been made in the treatment of this class of fractures during the last hundred years. My remarks, you are to understand, will be limited exclusively to fractures of the shaft of the femur, and will be still further limited to fractures of this character occurring in the adult. In fractures of the thigh in children there are material differences, to which it will be impossible for me to allude, for lack of time, on the present occasion.

In the first place, I wish to remark that fractures of the shaft of the femur in the adult are almost invariably oblique,—not moderately so, but extremely oblique, as a general rule. It is, therefore, impossible to make the fragments set, in the ordinary acceptation of the term; and they can only be maintained in position by extension and counter-extension. The powerful muscles attached to them necessarily make them overlap each other, giving rise to the hideous deformity which is seen in the two specimens that I now show you. In such a case the bulging noticed is always equal to twice the thickness of the shaft, even if there should be no callus to make it still greater. This, then, is the beginning of our study of fractures of the femur: they are oblique.

Now, how is this powerful action of the muscles of the thigh, causing the fragments thus to override, to be counteracted? Until the latter part of the last century (from the remotest periods, as far as we have any knowledge), surgeons were in the habit of employing a simple long straight

splint. By making extension and counter-extension they pulled the fragments out into position, and then applied the splint to the side of the limb with bandages. Such a long splint I now show you, and this particular one was handed to me by one of the surgeons in Stonewall Jackson's army, where he was frequently obliged to have recourse to it. Towards the close of the eighteenth century, however, Pott wrote a short treatise in which he showed that there had always been considerable shortening after fractures of the thigh, explained the reason why this was so, and contended that the muscular contraction giving rise to it could be overcome by keeping the limb in a flexed position and thus relaxing the muscles. This publication made an immense impression in the medical world, and, as a consequence of it, the double inclined plane came into general use in the treatment of this class of fractures, both in England and in America; though it was never adopted by the French and German surgeons. The theory was specious, but unsound. It has its advocates even up to the present day, however, and a few leading surgeons in this country, among whom I may mention the distinguished Nathan R. Smith, of Baltimore, still prefer the double inclined plane to any other method of treatment.

Almost the entire surgical world, however, has returned to the use of the straight splint; but very important modifications have been made in it. The first of these was introduced by Boyer, and since his time almost innumerable devices, some of which I show you here, have been suggested in connection with it. Most of the modifications involved some form of screw by which extension could be made, and also some appliance for making counter-extension. The way of getting hold of the foot in order to keep up extension was a very important matter, and always gave a great deal of trouble. A few of the various devices which have been suggested I now exhibit to you. They are all apparently good; but, however carefully the foot-band might be padded, they all invariably caused excoriation and ulceration when any considerable traction was maintained for any length of time.

As to the matter of counter-extension, that was almost exclusively made by pressure upon the perineum, where the tuber-

osity of the ischium was the *point d'appui*. The best of all these appliances was the flat perineal band, on account of the comfort with which it could be worn by the patient. But what has been the history of these? Every old surgeon can recall a number of cases, especially where the patients were delicate females, in which a deep ulceration resulted from the pressure made by the perineal band.

It will thus be seen that surgeons labored under two great difficulties, viz., in the way of making suitable extension and suitable counter-extension by means of the extending band and the perineal band. In actual experience it was found to be altogether unsafe to employ a traction-force of over ten pounds, and this was usually quite insufficient for the purpose required.

It is to the late Dr. Crosby, of Hanover, New Hampshire, that the honor must be given of having made the first great step in the improved treatment of fractures of the femur. About twenty years ago he conceived the happy device of applying strips of adhesive plaster to the sides of the leg for the purpose of making extension, and by this means we are now enabled to employ with impunity a weight of twenty-five pounds, if necessary. This was indeed a great triumph. For the next great step in the treatment we are indebted to a surgeon of Schenectady, to whom it occurred that the necessity of having a perineal band might be obviated by elevating the foot of the bed. When this was first suggested to me it was thought to be necessary to have the foot of the bed raised about two feet from the floor, and in the first case in which I made use of the plan the patient complained that he felt as if he was going to have apoplexy, from the tendency of the blood to flow to the head. I was not, therefore, very favorably impressed with the idea; but the method was taken up with enthusiasm by Dr. Moore, of Rochester, and, as it was before long demonstrated that it was only necessary to elevate the foot of the bed four inches, the measure was adopted by almost all surgeons, and the perineal band was soon abandoned altogether. It is now many years since I have seen a perineal band in use in this hospital. One caution I will mention in raising the foot of the bed from the floor. It is always necessary to have the pillow under the patient's head alone; for if it is under the shoulders also, instead of having the whole

body act in the way of making counter-extension, you will only have the portion from the pelvis down.

Thus, then, you see, we have at our command reliable means for both extension and counter-extension without causing inconvenience or injury to the patient. But in making extension we are not able to go beyond twenty-five pounds' weight, for the reason that the ligaments about the knee-joint become painful when a traction-force exceeding this is applied. You know that in standing, however erect, the knees are never kept perfectly rigid and straight, but are always flexed to a slight extent; and if a greater weight than twenty-five pounds is employed when the body is in a recumbent position, the strain upon the ligaments soon becomes unbearable. Twenty-five pounds is the maximum weight to be used, and is ample for all practical purposes. Oftentimes a considerably smaller weight is quite sufficient; and my rule is gradually to increase the amount of extension until the patient cannot bear any more with comfort.

To the Germans we are indebted for many important advances in both medicine and surgery; but in one instance the American surgeons followed the teachings of the German authorities and went a step backwards. This was by the adoption of the plaster-of-Paris bandage in the treatment of fractures of the femur. At first it was supposed to be necessary to make counter-extension by pressure upon the perineum, and, as a consequence of the plaster treatment with this in view, I have seen an enormous ulceration result, extending for several inches around the perineum, and as deep as my hand. When this idea was abandoned, the attempt was made to obtain counter-extension by means of the large muscles upon the back of the upper part of the thigh; but in a person of small muscular development this was utterly impossible to do, and in any case the plaster application soon became so loose as to be utterly valueless in this respect. In this hospital I saw more shortening and more crooked limbs after fracture of the femur, while the plaster treatment was employed, than I ever saw before or have ever seen since. What is more, I saw three deaths actually result from it, and these have been carefully recorded in the latest edition of my work on Fractures and Dislocations. I tell you, gentlemen, the introduction of

this treatment was not one step, but several steps, backward. I do not speak from mere hearsay, but from actual experience; for for three or four years I treated every alternate case occurring in my service with the plaster bandage, and I always observed the result accurately. Now, I am happy to say, the method has fallen into general disuse here, almost all of my colleagues in the hospital having abandoned it. If you attempt to employ it in country practice, I feel quite sure that you will give it up too, after having made trial of it about twice.

Now we are prepared to look at some cases in process of treatment; and in the first one which I show you, you will observe that no side-splint is employed. This is sometimes unnecessary, but in many instances it forms an essential feature of the treatment. Instead of one pulley and one weight, there are two of each,—the two cords extending from each side of the foot-piece. This modification was suggested by Dr. Monroe, of the House staff, with the idea of preventing external rotation of the limb; and it does accomplish this to a certain extent. In this case, a plaster-of-Paris bandage has been applied over the adhesive strips, in order to keep them more firmly in position.

In the second case before you, there is also no side-splint, as you will perceive, and rotation is guarded against not only by having two weights and pulleys, but also by a little apparatus contrived by Esmarch. This consists of a cushion on which the foot rests, and which is fastened to a wooden cross-piece for the purpose of holding the limb steady, and the cross-piece is movable upon a frame when the position of the foot is changed. We have, however, a simpler means, I think, of accomplishing the same result in a better manner, and this I will show you presently. In this case, silicate of sodium instead of plaster of Paris, as in the last, is applied over the adhesive strips upon the leg. The patient has now been under treatment for more than seven weeks, and yet I am still able to detect a little crepitus at the seat of fracture. As he is a young man and apparently in good health, the process of repair would seem to have been going on rather slowly; but I have no doubt that a good result will be obtained in the end. In my forty years and more of practice I have never had a single case of non-union

occur in my own hands, and I have certainly treated a pretty large number of these fractures; though I have seen some in consultation. I do not say this in any spirit of boasting; but such has been my good fortune.

I now pass to the third case, the treatment of which is a typical example of what is known as Buck's method. Dr. Buck has done a great deal for the treatment of these fractures, but the various improvements which have been adopted in its most approved form have been suggested by so many surgeons that I think it is hardly just that it should be called by his name, and I would suggest the "American plan" as a more appropriate title. You observe its prominent points: the long splint, with its lower extremity fitted into a light wooden frame-work to hold it steady, and its upper portion bound to the side of the chest by a wide roller-bandage; the foot-piece (to which the weight is attached by the cord passing over a pulley) sufficiently wide to prevent any pressure being made upon the external or internal malleolus; the adhesive strips extending up to the knee, and covered by a roller to keep them in position; the four short side-splints about the thigh, covering the seat of fracture; and, lastly, the foot of the bed elevated four inches above the floor, for the purpose of making counter-extension. The adhesive plaster should not pass above the knee, for if it reaches higher than that it will be likely to do more harm than good, by involving some of the muscles which are attached to the upper fragment of the femur. For the four independent side-splints, within the long one, we are now in the habit of using felt, because it is a light material and when once moulded to a part retains its shape permanently. They are kept in position by a bandage, and can be removed at pleasure for the purpose of examining the seat of fracture, or for any other reason that may necessitate it. They are extremely useful in preventing looseness of the limb. As a general rule, I regard the long splint as the most essential requisite for making a straight thigh, and it acts in two ways: *first*, by preventing eversion, and *second*, by keeping the whole body straight. In its simplicity and efficiency it is far superior to the plaster-of-Paris bandage. Theoretically, the latter, after being once applied, is supposed to remain

in situ until the case is discharged cured ; but practically it is found to get loose in a week, and in two weeks it becomes positively necessary to remove it and apply an entirely new dressing, which involves no inconsiderable amount of labor. This, of course, has to be repeated about every fortnight until the end of the treatment. Here is a little boy upon whom the plaster was applied only a few hours ago, and, though it was very carefully and thoroughly done, you will observe that I can already get my hand underneath the part of the bandage which passes around his body. In the course of a week the whole will be so loose as to be of no practical use whatever.

In all the cases which I have shown you there will probably be some shortening, varying from three-eighths to one-half of an inch ; for in fractures of the femur more or less shortening is the rule, and not the exception. Some writers would have us believe that naturally in about every third man one lower extremity is longer than the other ; but this is certainly not the case, for were it so this disparity would very frequently be corrected by the occurrence of a fracture. In reality, however, I find that in about nine out of every ten cases one limb is slightly shorter than the other after my treatment for fracture.

The next case which I shall show you is a young man who has had one of his thighs fractured twice. The first time he was treated by some other surgeon, and the last time by myself, quite recently, at St. Francis's Hospital. It is necessary that we should be very accurate in making measurements after fractures of the femur ; and my method is as follows. Placing my thumb-nail upon the ring of the measuring-tape, I do not put it directly upon the anterior superior spinous process of the ilium, but underneath the latter, upon the tensor vaginae femoris muscle, and then press it firmly up against the bone. The lower end of the tape is now passed to the external malleolus, and in the case before us I find that the limb which has sustained the two fractures measures thirty-four inches, while the uninjured one measures thirty-four and a half inches.

The patient tells me that a day or two ago, while making unusual muscular exertion, he heard something crack, and experienced a sensation of pain and weakness at the seat of the recent fracture.

This was no doubt due to the fact that the callus, being still new and tender, gave way to a certain extent ; and it will be necessary for him to remain perfectly quiet for a few days, in order that firm union may again occur in it.

In conclusion, I may remark that I was very much gratified to-day by the reception of a copy of my book translated into German. However unworthy an effort it may be, it is a matter of some pride to me to know that it is the only exhaustive treatise upon fractures and dislocations extant in any language, except the great work of Malgaigne ; but that appeared twenty-seven years ago, and has now, of course, become in many respects practically obsolete.

ORIGINAL COMMUNICATIONS.

FOUR CASES OF TRACHEOTOMY FOR PSEUDO-MEMBRANOUS LARYNGITIS.

BY CHARLES B. NANCREDE, M.D.,

One of the Surgeons to the Protestant Episcopal Hospital.

IN placing these four cases of tracheotomy upon record, I will only report the facts, and not make any extended comments upon them. I do not propose considering in the present paper the place that the operation should occupy in the therapeutics of this dread disease, or the indications for its performance, etc., merely stating that all of my patients presented marked recession of the base of the chest and epigastrium upon inspiration, and a like condition of the supra-sternal and clavicular notches, the sterno-cleido-mastoid muscles standing out in sharp relief. In like manner, the after-treatment will not be described in detail, since the notes of each case will, I trust, develop my plan sufficiently. In reporting the results of any therapeutic measure, too often only the successful ones are published, while the much larger number perhaps, the failures, are allowed to remain in "Cimmerian darkness." This mistaken plan almost inevitably results in disappointment to those who are induced to follow in the footsteps of the reporter, and equally often a measure full of advantage falls into undeserved disrepute. Were *all* the results, good, bad, or indifferent, published, the reader would make similar attempts with

his eyes open, and neither expecting too much nor too little would much more rarely be disappointed. I think that I am personally acquainted with nearly all, if not all, the successful cases operated upon in this city, and so are the majority of the profession. With regard to the unsuccessful ones, I can only say that while only some ten or a dozen gentlemen have been successful with a small minority of their operations, I know of some fifteen or twenty others who have had no recoveries whatever. Some, too, of these operators have had as many as three or four cases apiece; while I am convinced that many others have escaped my knowledge.

It will be perceived that my first three cases were eventually unsuccessful,—although affording great relief for a time,—but the fourth resulted in a most satisfactory recovery. For this fortunate event I am largely indebted to the thoroughness and efficiency with which the after-treatment was conducted by my resident, Dr. Goldsborough, kindly aided by Drs. Hazlehurst, Irwin, Smith, and Walsh, the other resident physicians at the Protestant Episcopal Hospital, and Mr. Foulkrod, medical student.

In the last and successful case there is one part of the treatment that I desire to emphasize by calling especial attention to it, and that is the employment of digitalis. Doubtless, most are aware that digitalis has been recommended and successfully used in pneumonia, etc., reducing the frequency of the heart, thus acting as an antiphlogistic agent, as well as strengthening that organ, and aiding in averting the danger of heart-clot which may occur in this disease. In like manner, by slowing the circulation, the temperature is decreased. Its use has also proved of great value in typhus and typhoid fevers, acting as a heart tonic and antipyretic agent. Now, unquestionably in diphtheria one of the dangers is a sudden giving-out of the heart, which, if the disease be complicated with pneumonia, greatly enhances the risk of heart-clot. For the above reasons, and from having previously witnessed in another grave operation case the beneficial effects of digitalis, I was induced to give it. Judging from its results in this croup case, it would seem likely to prove of great value in similar ones: still, I am seriously opposed to generalizing upon such small grounds, believing that this habit of hasty generalization has done more than any-

thing else to retard and discourage our progress in therapeutics.

I think that I have not judged amiss from the results obtained by the use of the same drug in a number of other traumatic cases where similar results obtained. I would add another fact which seems to me likely to render digitalis useful in diphtheria,—viz., its value as an antipyretic where there is increased bodily temperature. Children are influenced most unfavorably by high temperatures in disease, which seem to me especially dangerous in diphtheria where there is a tendency to weak heart, since this organic muscle is known to suffer from great heat, as in sunstroke.

Case I. Fatal Result.—I was sent for in haste on the evening of October 4, 1875, to see Allen M., æt. 4 years. He had been sleeping with an older sister who was convalescing from an attack of diphtheria, his eldest brother at this date suffering from the same disease. Having called to see another member of the family that morning (whose leg I had amputated a few days previously), I had noticed that the child Allen was croupy, but a careful examination of the fauces made by myself and Dr. Cleemann, who was kindly assisting me in dressing the amputation case, failed to reveal any membrane, or indeed much amiss with the throat. He was croupy indeed, but no more so than is commonly seen in many cases of inflammatory croup, viz., slight huskiness of the voice, some slight stridor of respiration, and a ringing croupy cough. I warned the parents to watch him closely, and to let me know should there be any marked change for the worse. About 5 P.M. he had a bad suffocative attack, after which he had a number of recurrences, with the whispering voice, noiseless cough, and swollen congested face so characteristic of pseudo-membranous laryngitis. I saw him about 9½ P.M., when his condition was steadily growing worse, marked recession of the supra-sternal and clavicular notches being present, with sinking in of the base of the chest and epigastrium upon every inspiration, the latter being short and labored. The lungs seemed healthy. The child lay back in the mother's arms apparently much exhausted. Medicinal measures having failed, Dr. H. Lenox Hodge was sent for in consultation, and upon his arrival, about 11 P.M., I performed tracheotomy beneath the isthmus of the thyroid gland, introducing a double silver canula. The wound was cauterized with a solution of argenti nitras, according to Trousseau's recommendation. The after-treatment consisted in keeping the room warm (about 90° Fahrenheit) and full of steam, with good food. Lime was kept slaking in the room.

The case progressed favorably until about 4 A.M. of the 7th inst., when increasing difficulty of respiration was noted, which had progressed to such a point that upon my morning visit, about 10 A.M., the whole chest seemed to wave and sink in upon every attempt at inspiration. The face was livid and intensely congested. I removed the tube and tried to excite coughing, hoping that the membrane might be but limited and acting merely as a plug, in which case it might be driven past the opening in the trachea by the violent expiratory efforts. This expedient proved of no avail, however, the child expiring in about fifteen minutes. I had no time for examination of the chest, but think that death was caused by a rapid extension of the membrane downwards, and consequent plugging of the bronchi. The relief and the prolongation of life were very evident up to some six hours before death, the child sleeping, breathing, and taking food as if nothing much were the matter with it. No post-mortem examination was made.

Case II. Fatal Result.—Peter S., æt. 2 years and 11 months, was first noticed to be ailing Saturday, February 19, 1876, and the next day was slightly croupy, but with no apparent interference with respiration. He continued in the same condition until Tuesday morning. About 9 A.M. of this day, when he got up, his mother first noticed the stridulous breathing. She then sent for Dr. G. A. Rex, who did not see him until about 5 P.M. Various emetics had been administered, but with no relief. I was then asked to see him in consultation. When I did so, his face was a little swollen and much congested; there was marked interference with the entrance of air into the chest, loud stridor, with depression of the supra-sternal and clavicular notches, and recession of the abdominal walls and base of the chest upon every inspiration. There were patches of old membrane upon the tonsils, the lymphatic glands of the neck were but slightly involved, and there was little or no constitutional depression. The lungs seemed to be free from disease. I advised an immediate operation, which I performed under ether at 6.30 P.M., being kindly assisted by Dr. G. A. Rex, who etherized, and Dr. E. L. Evans. The operation was completed without difficulty, a considerable portion of false membrane being coughed up when the tracheal incision was made and a small double vulcanite tracheal tube was inserted. Gave quinia and iron, beef-tea, compound tincture of cinchona as a stimulant, on account of the alcohol it contained, and camphorated tincture of opium, *pro re nata*. The steam atomizer with lime-water was freely used, the spray being directed into the tube, while a gauze veil moistened with the same fluid was placed loosely around the neck. I have to return thanks for the efficient manner in which my friends Drs. Cleemann, J. Henry C. Simes, and H. Reed watched the case for me, and for the

able co-operation of Dr. Rex, the attending physician. These gentlemen kept the tube clear by the introduction of a feather wet with a weak disinfectant solution, and by occasionally removing the inner tube. The parents also rendered most efficient aid in this task.

The case progressed most satisfactorily for the first two days, when the respirations suddenly ran up to 44 per minute upon my first visit, and then to sixty odd upon a subsequent one. The pulse kept pace with the respirations, reaching 144 per minute, and still higher towards the close of life. I believe this to have been due to an ordinary pneumonia, from which disease he had nearly died the year before; but I could not verify my conjecture, since the child would not submit to any physical examination whatsoever. Great swelling of the lymphatic glands and the whole neck was noted upon the night of the second day, threatening at one time to force out the tube; but this subsided almost entirely before death. He expectorated membrane freely through the tube, especially during the latter part of the second and the early part of the third day; none coming away for twelve hours before death. The wound became covered with false membrane, notwithstanding Trousseau's plan of cauterizing the wound with a solution of argenti nitras was followed at the time of operation. There was no reason to think that the membrane extended downwards, since Dr. Rex assured me that air entered the chest freely to the last, when he died on the morning of the fourth day in convulsions, due most probably to uræmia, although no urine could be obtained for examination. He lived not quite three days and a half from the time of operation. No post-mortem examination was made.

Case III. Fatal Result.—Was called to Lizzie K., aged 4 years and 1 month, December 26, 1876, who was suffering from a suspicious coryza, accompanying pharyngeal diphtheria. I say suspicious coryza, having attended to its fatal close a most malignant case of diphtheria in a younger sister ten days previously, where not only the pharynx but the nasal passages were attacked, the efficient cause of death being, however, laryngeal diphtheria, for which I did not consider it proper to operate. The patient was ordered to have the throat swabbed out with salicylic acid and glycerine four times daily, or oftener if it could be done, and to take quinine and iron in appropriate doses, with nutritious food and stimulants. At my next visit there were no croupy symptoms: the child was, however, no better. On the evening of the 27th I was sent for, and found the child markedly croupy, the symptoms having first been noticed late in the afternoon. I informed the parents of the almost hopeless nature of the case, but suggested a consultation, as they had lost the other child from the same disease without operation. Accordingly, Dr. H. L. Hodge met

me, and advised most strongly to tracheotomy should the child become much worse. Appropriate medicinal measures were adopted and carried out during the night, but the child steadily became worse, until at 9 A.M. of the 28th it was manifest that the operation was demanded if it were to be done at all. Accordingly, assisted by Drs. Cleemann and G. A. Rex, the child being carefully etherized by Dr. T. H. Bradford, I operated at a little after ten o'clock, introducing a double vulcanite tube. As usual, when the trachea was opened, considerable membrane was expelled, respiration was much relieved, and the child soon fell asleep, with the surface of a much more natural color. The wound was treated as in the previous cases. The room was kept heated and full of steam, while the lime spray of the atomizer was kept playing at intervals across the mouth of the tube. A cravat of gauze enclosing some salicylated cotton was loosely laid over the neck. The quinine, iron, etc., were given as often as the child could be induced to take them, but unfortunately it was rebellious and took but little, and much less food than I could have desired. The pulse was about 110, and respirations 20 per minute, up to the next day, when they both increased. About 5 P.M. a large piece of membrane was coughed up through the tube. During the morning of the 29th the child seemed worse: there were occasional bleedings from the nose, with fetid discharges. In the afternoon she became restless, more feverish, respiration was labored and difficult, and when I saw her at 7.30 P.M. it was manifest that but little air was entering the chest. I removed the tube and introduced a dilator, but the face, which was livid before, became rapidly dusky, and the child died, completely asphyxiated, at 7.45 P.M. This case was skillfully cared for by Drs. Bradford, G. A. Rex, H. Reed, Williamson, and C. Wirgman; and I take this opportunity for acknowledging my indebtedness to them for their kindness. No post-mortem was made.

Case IV. Cure.—When making my usual morning visit to the surgical wards of the Protestant Episcopal Hospital, I was told by the medical resident that Dr. Minich, one of our assistant physicians, then in charge of the medical wards, desired me to see a child who had been admitted that morning suffering from pseudo-membranous laryngitis, with a view to the propriety of operating. Dr. R. Meade Smith, the resident, told me that the mother said the child had only been ailing the previous day; but this is doubtful, since she was very indifferent and careless as to the child's welfare. Medical measures seemed to have relieved the child somewhat, owing chiefly, I believe, to the relief of the spasmodic element common to this as well as spasmodic croup, and to the evacuation of a large amount of tough mucus due to a general bronchitis, if not broncho-pneumonia, from which he was

then suffering. I advised that the usual medicinal measures should be used, gave a very unfavorable prognosis, but said that as the child's fauces presented no evidence of disease, and the lymphatic glands were not manifestly involved, I would advise the operation should the child continue unrelieved. I saw him at intervals whilst going my rounds, and found him steadily growing worse, becoming decidedly narcotized by the partial asphyxia. I received a telegram about 7.30 P.M. to come immediately and operate. I did so upon my arrival about 9 P.M., Thursday, July 26, 1877. The patient, John —, aged 4 years, was a puny, sickly child at the best. His face was intensely congested, great restlessness, and much greater difficulty upon inspiration was present. The most violent inspiratory efforts were being made, but little air entered the chest, and the lungs were full of râles, and not so resonant as they should have been. The signs of laryngeal obstruction were very marked, similar to those detailed in the other cases. The child's sensibility being dulled from the partial asphyxia and its lungs congested, I operated without ether. There was considerable difficulty during the latter part of the operation, owing to the wounding of the middle thyroid vein, or perhaps the thyroid isthmus itself. I had seen and, I supposed, protected these, but, owing perhaps to the struggles so inevitable when the trachea is fixed by the tenaculum, my knife must have wounded one or both. The unfortunate consequence was that by compulsion I opened the trachea in a pool of blood, respiration being too embarrassed to permit of my securing the vessel, knowing too that the hemorrhage would cease as soon as the tube was introduced. Surprisingly little blood entered the trachea, owing to my efficient assistants, and the little sufferer soon fell asleep after taking f3ss brandy and about Oss of milk, breathing most naturally, about 20 per minute.

The merest detail of the pulse, temperature, etc., will tell all the tale we need:

July 26th (day of operation).—Temperature, 101°. Evening.—Pulse, 140; respiration, 28.

27th. Morning.—Temperature, 100°; pulse, 120; respiration, 20. Evening.—Temperature, 100°; pulse, 132; respiration, 20.

28th. Morning.—Temperature, 99.5°; pulse, 116; respiration, 20. Evening.—Temperature, 100°; pulse, 136; respiration, 20.

29th. Morning.—Temperature, 100°; pulse, 112; respiration, 20. Evening.—Temperature, 100°; pulse, 132; respiration, 24.

30th. Morning.—Temperature, 100.5°; pulse, 108; respiration, 20. Evening.—Temperature, 102.5°; pulse, 120; respiration, 24.

31st. Morning.—Temperature, 102°; pulse, 116; respiration, 38 (pneumonia developed in the apex principally of left lung, involving eventually the whole upper lobe). Evening.—Temperature, 103°; pulse, 136; respiration, 35. Digitalis given.

August 1st. Morning.—Temperature, 101°; pulse, 136; respiration, 36. Evening.—Temperature, 101°; pulse, 140; respiration, 42.

2d. Morning.—Temperature, 101°; pulse, 132; respiration, 20. Evening.—Temperature, 102°; pulse, 150; respiration, 30. Fresh pneumonia, or rather extension to other portions of the left lung.

3d. Morning.—Temperature, 101°; pulse, 132; respiration, 36. Evening.—Temperature, 100°; pulse, 120; respiration, 28.

4th. Morning.—Temperature, 100°; pulse, 128; respiration, 28. Evening.—Temperature, 100°; pulse, 108; respiration, 42. Tracheal tube corked for half an hour at a time, thus accounting for increased number of respirations.

5th. Morning.—Temperature, 99.5°; pulse, 128; respiration, 28. Evening.—Temperature, 99.5°; pulse, 128; respiration, 30. Tube corked for a short time.

6th. Morning.—Temperature, 99.5°; pulse, 124; respiration, 39. Evening.—Temperature, 99.5°; pulse, 120; respiration, 36. Tube removed, but replaced several times daily for a few minutes at a time, and finally at 9 P.M. put in permanently for the night; gauze over orifice.

7th. Morning.—Temperature, 100.5°; pulse, 120; respiration, 42. Evening.—Temperature, 99.5°; pulse, 120; respiration, 40. Increased temperature and respiration rate apparently due to placing a piece of gauze heavily charged with carbolic acid over the tube, by mistake for plain gauze. Tube removed at 9 A.M., replaced at 9 P.M.

8th. Morning.—Temperature, 99°; pulse, 120; respiration, 35. Evening.—Temperature, 99.5°; pulse, 132; respiration, 40. Tube removed permanently; gauze compress lightly strapped over orifice; removed whenever child took food, as from third day there has been increasing regurgitation of food through the tube; abscess forming on forearm; poulticed.

9th. Morning.—Temperature, 99°; pulse, 120; respiration, 40. Evening.—Temperature, 100°; pulse, 134; respiration, 36. Abscess opened and poulticed; lungs steadily clearing up, regaining color and strength; cough much less.

10th. Morning.—Temperature, 99°; pulse, 132; respiration, 36. Evening.—Temperature, 99°; pulse, 132; respiration, 26.

11th. Morning.—Temperature, 99°; pulse, 108; respiration, 20. Evening.—Temperature, 98°; pulse, 116; respiration, 26.

12th. Morning.—Temperature, 98°; pulse, 116; respiration, 35. Evening.—Temperature, 98°; pulse, 128; respiration, 32. From this time the temperature remained normal, although the pulse and respiration remained high and variable.

The remainder of the treatment may be briefly stated as, at first, quinine and iron in large doses, the former part of the time equaling grs. vi by the mouth, and grs. viij per rectum. Sherry wine f3vi by mouth, and

brandy f3ss per rectum. Beef-tea, milk, corn-starch, farina, rice, etc., were given by the mouth, and from f3iv to f3v of beef-tea were given by the rectum. The digitalis, following the use of which such a marked improvement in the symptoms ensued, was given gr. i every two hours. When the regurgitation of food became marked, strychniæ sulph. gr. $\frac{1}{100}$ twice to thrice daily was given. Counter-irritation of the chest by turpentine stupes, followed by mush poultices, was tried, but the child would not keep the poultices on; so a heavy layer of cotton-wool covered by oiled silk was substituted. The atomizer with lime-water was almost constantly used, but the temperature of the room was not raised artificially. The wound closed in its deeper parts in about ten days after removing the tube, but remained superficially sore for some two weeks more. Various cerates were used, and the granulations were repressed or stimulated with argent. nit. The wound was for the first week merely covered by a compress, but after this time it was drawn together with straps and a compress.

2109 PINE STREET, October, 1877.

NOTES OF HOSPITAL PRACTICE.

JEFFERSON MEDICAL COLLEGE.

SERVICE OF DR. S. W. GROSS, LECTURER
ON CLINICAL SURGERY, MAY 12, 1877.

Reported by W. A. JOHNSTON, M.D.

GENTLEMEN,—If I detain you this morning beyond my customary hour and a half, I wish you to understand that I do it for the reason that I have an excellent opportunity of showing you seven cases of disease of the mammary gland, from which I hope to be able to demonstrate to you the more salient points in relation to their diagnosis, pathology, and treatment.

CHRONIC ABSCESS OF THE BREAST.

Case I.—Miss H., aged 27, has been suffering from an enlargement of the right breast, seated principally below and to the right of the nipple, for ten months. The nipple is very small, and appears to be retracted, but she states that this is a natural malformation. The growth of the swelling has been gradual, and it has been the seat of lancinating pains for the past four weeks, previous to which time it was free from suffering. There is no history of injury or of constitutional taint, and the integuments are normal and of the same temperature as that of the opposite side. The tumor is circumscribed and well defined, but there is an indistinct sense of fluctua-

tion, and it is evidently composed of fluid, surrounded by a considerable solid tissue. To assure myself of the true nature of the swelling, I introduce an exploring-needle, and as a drop of thin pus shows itself in the groove of the instrument, we know that we have to deal with a chronic abscess.

Case II.—Mrs. H., aged 27, the mother of two children, of whom the youngest is thirty-three months old, noticed, three months ago, a small lump at the upper and outer limit of the left breast, for which she is unable to account. It has gradually increased in size until it is now as large as the half section of an orange. It has never been the seat of pain or heat, and the nipple and integuments are normal. On lifting up the mass it feels like a solid tumor with cystic degeneration, as it is firm excepting at a limited spot, where fluctuation is decided. The exploring-needle, however, discloses thick, greenish pus.

Chronic mammary abscess, of which these cases are good examples, according to my observations, occurs most frequently in the third decade, or between the twentieth and thirtieth years, during suckling, although single and sterile married females are liable to it. The patient's attention is usually accidentally drawn to a firm, circumscribed, resisting "lump," or several lumps, which finally coalesce into one, seated at the periphery of or within the breast, which increases slowly, and without the ordinary signs of inflammation, until it has acquired a tolerably large size. In its earlier stages, its solid, circumscribed feel, its tardy progress, the absence of local symptoms of inflammation, and the impossibility of detecting fluctuation from the thickness of the cyst-wall, render it liable to be mistaken for a neoplasm, particularly the so-called adenoid tumor, which occurs at about the same period of life. Under these circumstances the entire gland has not unfrequently been extirpated. When softening sets in, and suppuration is still limited, indistinct fluctuation may be elicited; but as, in this stage, there is a good deal of surrounding induration, it may be confounded with the solid cystic growths, as cystic sarcoma or cystic fibroma. Later, when the formation of pus has advanced so far as to have caused the gland to attain rather large dimensions, the swelling is apt to be tender on manipulation, and the seat

of lancinating pains, while the subcutaneous veins are enlarged, the skin is discolored and glossy, and thinned at its point of attachment to the now pointing abscess, and oedema may be superadded. At this stage of the affection the incautious observer may be led to suppose that he is dealing with a medullary sarcoma or carcinoma. Hence you will see that the diagnosis is not always easy, and that you should not omit resorting to the exploring-needle to confirm it.

The treatment of chronic abscess of the breast is by evacuation with the bistoury; the insertion of a small tent, to prevent the closure of the wound, allow the free escape of the pus, and encourage the growth of granulations from the inner surface of the sac; and support by the gum ammoniac and mercurial plaster. This treatment was instituted in these cases, and twelve grains of quinine were ordered to be taken during the twenty-four hours.

PROLIFEROUS CYSTIC TUMOR OF THE BREAST.

Mrs. I., aged 45, barren, has a painless tumor of the left mamma, of one year's duration, seated superficially in the middle of the gland, the nipple corresponding to its centre. It is globular, elastic, of the volume of a small orange, fluctuates distinctly, and constantly discharges a thin, turbid, bloody fluid from the nipple, which is prominent and natural. The skin is not discolored, the gland is perfectly movable, the lymphatic glands are free from enlargement, and pressure causes a fine stream of the fluid to be ejected by a lacteal duct. Her general health is good, and she ceased to menstruate three years ago. The fluctuation and discharge of fluid are quite sufficient to stamp the tumor as cystic, which is a comparatively rare form of disease.

Cysts of the breast originate in several ways. Thus, they may be due to softening of a neoplasm, as a sarcoma; or they may be entirely of new formation; or they may arise from obstruction of a lacteal duct, with resulting dilatation of the corresponding acinus and duct, and retention of their secretion, which is either of a limpid serous or mucoid nature, tinted with blood, or of various hues. The last form of the affection, which includes the case under consideration, is the most common, and is known as retention cyst. It is met with in young girls and women after the completion of puberty, or during the

evolution or full maturity of the gland, and later in life after the cessation of the menses. In the first class of subjects, in which it is called evolution cyst, it forms a round, movable, firm, elastic, smooth, or lobulated tumor, which seldom exceeds the size of a walnut, and grows slowly and painlessly. If fluctuation be not evident, it will be impossible to distinguish it, without a resort to the exploring-needle, from adenoid fibroma or adenoid sarcoma, which also occur most frequently in the third decade. The cyst which occurs during the involution of the gland, and is known as involution cyst, also progresses slowly and is painless, but it is capable of acquiring enormous dimensions. Unlike the former, which is usually a simple barren cyst containing a limpid fluid, it is very liable to be prolific, or present on its inner surface other cysts or variously shaped solid growths, which may be of a fibrous or glandular nature, or composed of sarcomatous, myxomatous, or carcinomatous tissue. Hence it is that involution cysts, with bloody contents, should always excite suspicion.

Although no solid element could be detected, it was deemed best, particularly as the gland was of no use to the woman, to remove it. This was accordingly done, under ether, by two elliptical incisions. After the ligation of five vessels, the edges of the wound were approximated by interrupted sutures and narrow adhesive strips, and an oiled compress was secured by a roller passed around the chest, to bring the deep surfaces of the wound in approximation. After extirpation, the tumor, which was intimately connected with the gland, was found to consist of a cyst, filled with bloody, turbid fluid, and having attached to its inner surface a vascular, succulent, spheroidal solid growth of the size of a hazel-nut. With a view to throwing light upon the question of recurrence, this will be subjected to minute examination.

ADENOID FIBROMA OF THE BREAST.

A servant-girl, single, aged 28, noticed, two years ago, above and exterior to the left nipple, a movable tumor, about the size of a small marble, which has now attained the volume of a walnut. It is firm, elastic, spherical in its outline, rolls under the finger, although it seems to have a deep attachment, is of uninterrupted growth, and free from pain. The breast

itself, the nipple, and integuments are normal; and there is no uterine derangement.

This tumor evidently belongs to the class of neoplasms termed adenoid, from the fact of their containing glandular tissue. It is most common in single women between the twentieth and thirtieth years, or during the stage of passive maturity of the breast. It is rarely the seat of pain, and the patient's attention is usually first drawn to it by accident.

According to my investigations, these growths are not new formations of glandular elements, or adenomas in the true sense of the term, for I have never been able to convince myself, from a number of carefully conducted minute examinations, that there is true hyperplasia, or numerical increase of acini and ducts. The neoplasms that are loosely called adenomas are either fibromas or spindle-celled sarcomas, the gland-tissue remaining perfectly passive, while the interacinous and intertubular connective tissues play the active rôle in their genesis. So far from there being an increase of the glandular elements, these undergo obliteration. For these reasons, I myself prefer to speak of fibroma or sarcoma, or of adenoid fibroma or adenoid sarcoma, the prefix being retained to show that a certain amount of gland-tissue is retained in them. These adenoid neoplasms are innocent, and cannot be distinguished from pure adenomas, unless it be that the latter are not distinctly circumscribed and do not grow larger than an almond. From each other, however, they may be differentiated by noting their clinical history. Thus, I have found that if a firm, possibly elastic, movable, and circumscribed tumor reaches the size of a walnut in six or seven months from the date of its first discovery, when perhaps it was not larger than a pea, it may safely be assumed to be a sarcoma; whereas if it has been two years in acquiring the same dimensions, it may be pronounced a fibroma.

Although I have never verified a true adenoma under the microscope, I by no means deny its existence: indeed, I always bear in mind its entity when I am consulted as to the propriety of operative interference. When the growth is of tardy progress and of moderate size, assuming it to be a fibroma, an operation may be delayed; but if it is increasing rapidly it should be removed, because, being a sar-

coma, it is liable to become cystic, attain large dimensions, and finally ulcerate, thereby forming what is known as cystic sarcoma. If you are in doubt, operate at any rate. If you find you have removed a true adenoma, you have gotten rid of a source of possible worse trouble, as observation has shown that adenoma may become carcinomatous: in point of fact, the boundary-line between adenoma and true epithelial carcinoma is by no means distinct. Again, you may have diagnosed an adenoma when your patient is really suffering from scirrhus, as is exemplified in the next case that I shall bring before you. Hence it will be more wise to remove a hard small growth at the circumference of the mamma than to allow it to remain. As the subject of the present case is not ready, operative interference will be deferred until the fall.

RECURRENT SCIRRHUS OF THE BREAST.

On the 19th of June, 1875, Mrs. P., then aged 52 years, consulted me on account of a tumor seated at the upper and inner circumference of the right breast. It had existed for five months; was as large as a filbert; the seat of occasional "drawing" pain; of stony hardness; movable upon the subjacent tissues, but attached to the skin in front, which was dimpled but otherwise unchanged. Although it had been pronounced to be an adenoma, the age of the patient, the consistence of the tumor, its intimate connection with the skin, which was dimpled, or pitted, from intraction of its fibrous elements, led me to diagnose it as a scirrhous carcinoma, notwithstanding the fact that there was no enlargement of the supra-clavicular, pectoral, or axillary glands. After extirpation, not only were the macroscopic characters those of scirrhus, but the minute structure also confirmed my diagnosis. The drawing which I show you, made by my friend and former pupil Dr. W. B. Brewster from a partially pencilled-out section, is a beautiful illustration of the histological construction of this class of morbid growths. You will observe that the alveoli of the connective-tissue stroma are occupied by free epithelial cells, and that between the fibres of the stroma are intercalated numerous emigrant colorless blood-corpuscles.

Although the tumor was so small and was confined to a single outstanding lobule, I extirpated it in the most thorough manner, carrying my incisions at least an inch from

the margins of the growth, and dissecting away the pectoral fascia, which was not at all involved. I did this with the hope that there would be no return; but the usual history of recurrence repeats itself here. The tumor reappeared in the outer extremity of the cicatrice nineteen months and a half after its removal, and is now of three months' duration. It is again as large as a filbert, painless and hard; but there are still no lymphatic involvement or deep adhesions. I will remove it freely, and with it some of the fibres of the pectoral muscle, in case cell-proliferation has extended in that direction. I do not consider it at all necessary to extirpate the entire gland, as the tumor is at its uppermost limits. She will be instructed to return at once should she again discover the merest nodule. Although the result of the first operation is discouraging so far as the question of local recurrence is concerned, I am satisfied that it has been of wonderful service in preventing contamination of the lymphatic glands and systemic infection or metastatic deposits. I had hoped, from the small size of the tumor and the early date and the thoroughness of the operation, that a cure would have been effected; but I cannot say that I am greatly disappointed, for I have yet to see the first radical cure of carcinoma of the breast.

EXTENSIVE SCIRRHUS OF THE BREAST IN A YOUNG SUBJECT.

In this woman, who is 31 years of age, the left breast is more prominent than its fellow, standing out boldly like a buttress. She is the mother of seven children, the last of whom was born ten weeks ago. She nursed from both glands up to one month ago, when she was directed by her family physician to discontinue the use of the affected one. I have no doubt that the rapid local spread of the disease may be ascribed to the early age of the patient and to the increased blood-supply of the gland: so that it is essential to check functional activity by weaning the infant entirely. The nipple is sunk into a deep furrow; but when I draw it out I find that it is inflamed and resembles a papillary tumor deprived of its epithelium. In the skin overlying the diseased organ, hard elevated ridges from half a line to two lines in diameter, and presenting a beaded appearance, are seen radiating from the periphery towards the nipple. These are produced by the extension of cancer-cells

into the lymph-spaces of the derma, where they have proliferated. The skin is also beginning to be brawny, thick, and hard, forming the *cancer en cuirasse* of Velpeau.

When I raise the breast, you observe on its lower and inner margin, involving about one-fourth of the circumference of its base, a puckered cicatrice, which is densely hard. At the outer margin I discover a hard, inelastic, discoid infiltration of the lower border of the great pectoral muscle; and on carrying my fingers farther outwards I come in contact with enlarged glands on the side of the chest and in the axilla. On attempting to move the breast, I find that it is adherent to the subjacent tissues; for the disease has also extended into the inner border or origin of the great pectoral muscle, and invaded the skin of the furrow between the breasts, where it forms a puckered cicatrice. Sharp lancinating pains are felt in the mass; but the patient's general condition is fair. All these facts make up the diagnosis of simple, hard, or scirrhus carcinoma, which is the most common variety of tumor occurring in this situation after the fortieth year. The disease began fourteen months ago as a small nodule at the lower and inner margin of the breast, or at the present site of the puckered cicatrice.

Scirrhus is very unusual at so early an age, and I have never, except in one instance, seen it in so young a person. It is most common after the cessation of the menses, between the forty-fifth and the fiftieth year, and usually shows itself either at the upper or lower and outer part of the organ, and not on the inner side, as in this case.

An operation is out of the question here. Even if I could remove all of the diseased tissues, which is simply impossible, recurrence would rapidly ensue. The treatment is entirely palliative, the object being to make the patient as comfortable as possible during the remainder of her life. To protect the breast from friction and pressure, she will have to dispense with corsets and wear a rabbit's skin next the surface. For the relief of the constant lancinating pains, a small portion of an ointment composed of thirty grains of veratria and two grains of morphia to the ounce of benzoated lard will be rubbed into the parts night and morning, and be supplemented, should it become necessary, by the internal exhibition of anodynes.

ATROPHIC SCIRRHUS OF THE BREAST OF SIXTEEN YEARS' DURATION.

The last case that I shall bring before you is a very remarkable one, and I am fortunately able to give you its previous history from notes taken when I first saw the patient on the 28th of April, 1871. She was then 56 years old, the mother of seven children, the youngest of whom was 27 years of age; her general health was excellent; and she had ceased to menstruate at the age of forty. In her twentieth year she had an abscess of the right breast, following parturition, which left a lump that never disappeared. In 1861, in consequence of itching of the skin, she accidentally noticed a tumor in the right breast, and one in the corresponding axilla; and she stated that during the ensuing ten years she could discover no appreciable difference in the size of the respective growths. There was no history of hereditary taint.

In 1871 her condition is noted as follows. The right breast is shrunken to one-sixth of the volume of the opposite one, which is small and flabby. The nipple is red and buried in the mass, resembling the arrangement of a circumvallate papilla of the tongue. The breast is excessively hard and inelastic, and its periphery is nodulated in such a manner, from intraction of the lobules, that it has a scalloped appearance. The skin about the nipple is of a light-red color, and the seat of superficial ulcers, or excoriations, which are, for the most part, covered with crusts. It is also puckered, or thrown into elevated lines, which radiate from the nipple, in which region it is adherent to the gland for an area of one inch. The breast itself is attached to the subjacent structures only throughout its lower half. The glands in the centre of the axilla form a dense circumscribed mass, as large as a pullet's egg, which is closely adherent to the wall of the chest. The glands above each clavicle are slightly enlarged. The tumor is the seat of a burning, smarting, or itching pain, which is occasionally of a lancinating character; but it can be roughly handled without producing suffering. With the exception of slight dyspepsia, the woman's general health is unimpaired.

To-day we are enabled to see what changes have taken place during the past six years. The breast and axillary glands are still separate, and they are firmly at-

tached to the ribs and intercostal muscles. The skin is thin, finely injected, and ruddy, and everywhere adherent. There is a small point of superficial ulceration above, at the border of the great pectoral muscle, and another over the axillary growth. These are partially covered with crusts. On the inner side of the withered breast, parallel with the median furrow, the skin is the seat of four shot-like, secondary nodules. The nipple, instead of being depressed, forms a small elevation on a very dense nodule. The entire mass is of stony hardness. The supra-clavicular glands are no larger than before; but half a dozen small glands can be felt in the left axilla, where they were first noticed four months ago. The woman's general health remains excellent, her only complaint being intermittent sharp pains at the site of the excoriations.

Although the disease has not remained stationary, its progress has been so very tardy that we have the rare spectacle of a cancerous patient alive and comfortable sixteen years after the affection was first noticed. As its extension has been superficial, it has remained a strictly local affair; for it has never spread beyond the mammary gland and its immediate anatomical connections. It has continued to be what it was at its very inception, a withering, cicatricial, or atrophying scirrhus; that is to say, the cells contained in the alveoli of the supporting stroma instead of progressively proliferating have early broken down into fatty detritus, and the resulting contraction of the dense though elastic fibrous tissue of the stroma has obliterated, in part or entirely, the individual alveoli, which remain as cicatrices. At the periphery, or surface, as is common to all carcinomas, however, cell-infiltration has been going on to a moderate extent, so that, instead of the typical structure of cancer, the microscope shows in these cases dense connective-tissue bands, with occasional small clefts filled with cellular debris, with extension of small cells into the adjacent tissues. This peculiarity of structure and the progress of the disease have led some observers to doubt whether it should be included among the carcinomas; but the implication of the lymphatic system, the skin, connective tissue, and muscles, along with the fact of recurrence after removal, are sufficient to stamp it as cancer.

Beyond the application to the excoriations of stramonium ointment in which a little bromide of potassium is incorporated, nothing need be done for this patient.

TRANSLATIONS.

THE PHYSIOLOGICAL ACTION OF NITRATE OF PILOCARPINE.—In *L'Année Médicale*, August, 1877, p. 134, are given the observations of MM. Chapelle and Droullon on the effect of subcutaneous injections of nitrate of pilocarpine practised on six patients, all but one of whom were suffering from slight surgical affections. The dose of the salt was about one-third of a grain, and as it is very soluble there was no difficulty in using it hypodermically. One or two minutes after the injection the patient had a sensation of warmth in the loins, his face flushed and his eyes became injected; soon an abnormal secretion of saliva filled his mouth, compelling him to spit every eight or ten seconds. At the end of three minutes little drops of sweat were observed about the nose, and then general diaphoresis occurred sufficient to dampen the mattress of the bed. The axillary temperature did not rise, but the pulse was variable, ascending perhaps in ten minutes to 140, and falling fifteen minutes later to 75, the oscillation generally, however, being between 95 and 110. There was disturbance of vision and hearing in the patients, and in some instances a desire to urinate. Nausea and vomiting were frequent occurrences. Thirty-five minutes after the first evidence of absorption of the drug the countenance became paler, the skin and extremities cold, formication of the limbs was felt, and the pulse lost strength; while the patients tottered and would have fallen if not supported by taking hold of something. The feeblest ones were completely overcome, and became very drowsy, inclining their heads over the basins to allow the profuse flow of saliva to escape with the least possible exertion. The symptoms gradually decreased, and in an hour or two all was over. The average amount of saliva ejected by each patient was about $\frac{3}{4}$ xvj, though in one case it reached nearly twice that amount. The perspiration was also very abundant, being sufficient to wet the bedding and mattresses.

In two cases the ordinary symptoms

occurred after the administration of the pilocarpine, but a recurrence of the profuse salivation and diaphoresis took place many hours afterwards; in one of the patients this was deferred until the following day at the same hour.

J. B. R.

TRAUMATIC TETANUS CURED BY SULPHATE OF STRYCHNIA.—Dr. Gaucher, of Algeria, who sees a great many cases of traumatic tetanus, which is common in that country, and who has never seen a cure except in the case to be mentioned, has reported (*Giornale di Medicina Militare*, Agosto, 1877, p. 774; from *Journal de Méd. et de Pharm. de l'Algérie*) an instance of a young man who was seized with tetanic convulsions subsequent to the receipt of wounds of the head and chin. Having seen no good results from the ordinary treatment, he prescribed sulphate of strychnia in doses of about one-sixteenth of a grain. Under this treatment the paroxysms were diminished in intensity, and were altogether checked after the lapse of about fifteen days. An exanthematous and furunculous condition of the skin occurred during the time that the morbid symptoms were disappearing.

J. B. R.

THE SYSTOLIC CEREBRAL MURMUR IN CHILDREN.—Jurasz (*Centralblatt für Chirurgie*, No. 35, 552) has investigated this phenomenon in a series of clinical and anatomical experiments. Out of sixty-eight children he found the murmur in twenty-eight cases, but it was not always constant nor in the same place. Its relation to pathological processes, except to rachitis and anæmia, he has not yet decided. The murmur is intermittent, isochronous with the pulse and the pulsation of the brain, and is frequently heard over the anterior fontanelle. It corresponds especially with the carotid murmur, and originates in the carotid canal, perhaps also in the foramen spinosum, since the size of these foramina is subject to great variation in children and consequently there results a disproportion between the canal and the artery. Previous to the third month, or after the sixth year, the murmur has never been heard. According to the author, no diagnostic value attaches to this murmur.

J. B. R.

URTICARIA SYMPTOMATIC OF HYDATID CYSTS OF THE LIVER.—Dieulafoy (*Giornale di Medicina Militare*, No. 8, 1877, p. 753; from *Gaz. Méd. de Paris*) has reported to the Society of Medicine some

interesting facts concerning the connection of urticaria and hydatid cyst of the liver. The eruption often appears after the first puncture of the cyst, the average being seven times in ten, but it does not always occur in the same manner after succeeding punctures; and on the contrary it is manifested very frequently when the cyst opens into the abdomen spontaneously. The cause of this phenomenon is unknown, but is supposed to be a simple reflex action, and not a blood-alteration caused by absorption of a certain quantity of the fluid; because the quantity that could be absorbed after puncture would be very small, and because M. Dieulafoy has observed a case in which the eruption after the tapping was limited to the middle line of the body. The phenomenon appears to be connected with hydatid of the liver, for it has not been seen in hydatid disease of other organs nor in other diseases of this viscus. Dieulafoy has also pointed out as a diagnostic symptom of this disease the very great disgust for fatty foods which the patients exhibit.

J. B. R.

VEGETABLE PARASITE OF THE TONGUE (LANGUE NOIR).—Lancereaux (*Cbl. f. Méd.*, 1877, p. 605; from *Union Méd.*, 1877, No. 33) observed the case of a man of 50, who together with his niece showed a black discoloration of the tongue similar to that first described by Raynaud as due to a parasite. The edges and tip of the tongue were intact and showed a rosy hue, while the dorsum was entirely covered by a black sharply-defined tegument extending over the edge. The latter was shaggy, as if composed of hairs partly arranged in regular order, partly in a confused tangle. A black mass could be scraped away with the spatula, which, after stirring in water, showed a great number of hairs of less or greater length up to one centimetre. These consisted of overgrown epithelium, the greatly hypertrophied covering of the papillæ filiformes. In them were found numerous collections of spores of 0.004–0.005 mm. diameter, with here and there undulating branched threads occasionally themselves containing spores. L. considers the black discoloration as due to epithelial hypertrophy as well as the fungus. Oscar Simon, who abstracts the case in the *Centralblatt*, refers to a similar case of vegetable parasite of the tongue (in which, however, there was no black discoloration) in the *Centralblatt* for 1876, No. 312. x.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 24, 1877.

EDITORIAL.

PAUL F. EVE.

ON November 3 this distinguished surgeon suddenly expired at the bedside of a patient, in Augusta, Georgia. A graduate of the medical department of the University of Pennsylvania, Dr. Eve had been very thoroughly and widely educated in Europe, having spent years abroad, and, it is said, crossed the ocean twenty-eight times. Probably no other American has held as many chairs of surgery as did Dr. Eve. He successfully fulfilled surgical professorships in the following medical schools: Medical College of Georgia, elected in 1832; Medical Department of the University of Louisville, 1850; Missouri Medical College, 1868; University of Nashville, 1870; Nashville Medical College, 1876. In 1851 he declined the chair of Surgery in the University of New York, and in 1857 he served as president of the American Medical Association. During the rebellion he served very actively, and was offered but declined the Surgeon-Generalship of Tennessee. It has been widely reported that Dr. Eve was a Pole. He was, however, born at Augusta, Georgia, June 27, 1806. The mistake no doubt has arisen from his having served in the Polish army in 1831 and received the Golden Cross of Poland for distinguished services. As a writer, Dr. Eve was quite active: for many years he was much engaged editorially in professional periodical literature, and besides wrote various surgical monographs. He is said to have been greatly beloved and respected by his friends and acquaintances, and to have been a devoted and consistent Christian.

THE article upon the abuse of medical charity in this city which we published in our last issue was so well put together and so vital that it is attracting much attention. There is one fallacy, however, underlying its calculation, which is very commonly overlooked in all such discussions,—namely, that a very large number of dispensary patients “go the rounds” and constantly appear as distinct individuals in half a dozen, more or less, reports. Making all allowance for this, however, there can be no doubt that the profession here, as elsewhere, is spending much of its time in destroying its own livelihood.

WE are glad to call the attention of our readers to the complete catalogue of *all* the graduates of the Medical Department of the University of Pennsylvania, just published. We should think that every alumnus whose memory travels back in leisure moments to the days of his budding manhood would want a copy as a chart in which to trace the old half-forgotten names of his classmates. The modest sum of one dollar, sent to Dr. Horace T. Evans, northeast corner of Seventeenth and Green Streets, Philadelphia, will secure the coveted volume, if sent soon, but a limited edition, we believe, having been published.

ACCORDING to the telegrams, Mr. Gale, whose walking feat we noticed in our last issue, has just accomplished the apparently impossible task of walking one thousand quarter miles in one thousand consecutive ten minutes.

TO the recent Philadelphia books which we mentioned in a late issue as having found favor in Europe may be added Dr. Garretson's “System of Oral Surgery,” which has been translated into German and Spanish.

MR. ANNANDALE has been elected to the chair of Clinical Surgery in Edinburgh University.

CORRESPONDENCE.

LONDON LETTER.

THE winter session of the medical schools has now fairly commenced, and the usual addresses have been delivered at the various schools, Bartholomew's and Guy's dispensing with the ceremony. The most remarkable address in every way was that of Prof. Lister at King's. A large and distinguished audience listened to him with much attention, and even the first-year student, who had never in his life so much as heard of a bacterium lactis, sat with a subdued expression and behaved with unwonted propriety. After the briefest possible allusion to the subject of his being there, Prof. Lister went at once to the question of Fermentation. He stated that in medicine the diseases termed zymotic derive their name from the hypothesis that their essential nature is fermentative. Puerperal fever, and many of the gravest matters connected with a wound, depend upon a putrefactive fermentation. He pointed out that so long as the sugar of the grape was protected from the minute fungus outside it by the skin, no fermentation took place; but as soon as the grapes were crushed in the wine-press, and the sugar and the ferment came in contact, decomposition of the sugar took place. He then applied this hypothesis of putrefactive fermentation to the blood. "We all know," he said, "that if blood is shed from the body into any vessel without special precaution, in a few days it putrefies. The bland nutrient liquid, soon after leaving its natural receptacle, becomes foul, acrid, and poisonous,—a change fully as striking as the change which sugar undergoes in the alcoholic fermentation. Here is a glass into which blood was received with special precaution. In the first place, the glass, covered, as you see, with a glass cap and a glass shade, with the view of preventing the access of dust, and standing upon a piece of plate-glass, had been heated to about the temperature of 300° Fahr., and cooled with an arrangement that insured the filtering of the air from its dust,—the air that entered during cooling,"—so that he was perfectly sure the glass contained no living organisms. Having been filled with blood from the jugular vein of an ox with the most careful precautions, it had stood six weeks. The blood-clot had undergone no contraction, there was no shrinking of the clot, no pressing out of the fibrine. Thus he proved that blood has no inherent tendency to putrefaction, and proved further that the oxygen of the air will not cause the blood to putrefy. Yet, if the end of a needle touched putrefied blood and then were dipped into this preserved blood, putrefaction would soon spread through the mass. Rod-like bacteria would soon be found to spread through the whole mass. He then stated that when the emulsin

and amygdalin of the bitter almond are in an aqueous solution and hydrocyanic acid is produced, the change is not due to real true fermentation. The emulsin might be termed a resolvent, the amygdalin being the resolved material.

He then referred to the changes which go on usually with milk, and to the hypothesis that the ferment of milk is the caseine in it. Yet this, he said, was not so. He then showed a flask of boiled milk prepared six weeks before. It had not coagulated, there was no butyric fermentation, no *oidium lactis*, no putrefaction. And yet there had been abundantly free access of air to the milk all the time, but with precautions which had prevented the access of any germs of what he called the bacterium lactis. For it would appear that, lowly as bacteria are, they will not thrive anywhere, but have a choice or preference, and the bacterium lactis refuses to grow in Pasteur's fluid specially prepared for bacteria and torulæ. When the bacterium lactis cannot get access to milk, that milk remains perfectly fluid and perfectly sweet, with a normal neutral reaction to litmus paper of both kinds, and under the microscope shows no trace of organisms of any sort. He then went elaborately into the experiments performed by him, none of which can, however, be quoted here. On the whole, it was a very novel introductory address.

The address at University College was delivered by Dr. John Williams, the Assistant Obstetric Physician. He also left the beaten track, and related the history of our knowledge of the uterus and the ovaries, and of their function. He showed how little had been our knowledge until comparatively recent times, and specially referred to the work of Dr. John Power, "Essays on the Female Economy," published in 1821. Here was first enunciated the law of the spontaneous discharge of ova. "In every female," said Dr. Power, "arrived at the peculiar age of puberty, and in whom the sexual organization is perfect, the generative process proceeds in a regular and uniform series of progressive actions, to produce an ovum containing whatever principle the female may contribute to the life and substance of the new creature, with nutritive matter to support its vitality and growth until it is enabled to derive sustentation and growth from sources external to the ovum, and also to prepare it for its removal to any establishment in its appointed nidus. The production of the female part of the embryo and the preparation for its support and subsequent evolution are entirely independent of all influence from the male. At and subsequent to the time of puberty the enlarged ovaria are found to contain ova in different states of perfection; and in women who had never been impregnated, corpora lutea and cavities which had been supposed previously to have contained ova have been detected, whence it may be inferred that

in them not only the formation but the extrusion of ova is accomplished without the influence of the male." Such are Dr. Williams's quotations from Dr. Power's writings; and he goes on to say the last twenty years have, by numerous observations, given ample proof of the accuracy of Dr. Power's views as far as regards the spontaneous discharge of ova. The view which has been held that the menstrual molimen is due to and excited by the dehiscence of the ovules in the ovary, is now considerably shaken. An older view has come up again, and this view is now formulated as follows. The menstrual hemorrhage is due to a rhythmic wave of supplemental nutrition, which commences at the end of each catamenial flow and gathers to a climax against the next flux, and such is the menstrual cycle. The ovules do not necessarily dehisce at the time of the flux, but the ovary shares in the general vascular excitement which gathers to a climax immediately before the uterine hemorrhage sets in. Dr. Williams is well and favorably known for his researches as to the deciduous membrane of the uterus and the changes that it undergoes during each menstrual cycle. He says, "During the last few years the process has been more fully studied, and the opinion that the uterus is active only at the monthly epochs is not borne out. On the contrary, it has been found that a series of progressive actions takes place in it periodically, and that a deciduous lining is developed in the body of it, beginning at the close of a monthly epoch, perfected during the interval, and removed during the bleeding period." Applying this physiological knowledge to practice, he said there is "a view based upon the physiological doctrine of the dependence of the uterine on the ovarian functions. It is that uterine disorder is secondary to and dependent upon ovarian disease. It by no means follows that a diseased ovary excites uterine disease because in health the functions of the uterus are dependent upon the performance of those of the ovary; but the doctrine itself upon which the view is based has not only been called in question, but very strong evidence has been brought forward to show its fallacious character, and that, whatever the relation between the ovarian and uterine actions, it is not a dependence of one upon another." This is all very well; but there are good grounds for still believing that the ovary and uterus are associated in disease as they are linked functionally in health; just as we know that the liver and kidneys are connected alike in health as in disorder.

The other addresses were of the usual character,—good advice and practical suggestions, blended with such skill as the lecturer might possess. At St. Mary's Hospital the address was given by Mr. Herbert Page, who pointed out that the training of a medical man should not only make him familiar with professional

knowledge but develop him into a cultured gentleman exerting a good social influence. He said, "I have said we must be teachers as well as healers. When, amid the vast changes and revolutions taking place around us, peril has seemed to beset the establishment of the English Church, we have been told of the wondrous influence for good which lies in the presence of an educated gentleman in every parish. No man can be insensible to the zeal of the clergy in their exalted work; but while there are hundreds of homes and families in which they are never seen, there are very few, while misery and disease have mastery, from which the doctor can long be absent. How immeasurably great might be the influence of so wide-spread a body as our own, if to the full and in something more than in name we were worthy to be called an educated profession! The primary truths and laws of physiology which govern health, and the infringement of which brings on disease; an attention to simple sanitary rules, the neglect of which may be dangerous not only to individual households, but also to whole communities; a proper training of the young; a breaking down of the ignorant prejudices which have long combined to make men regard mental disorder as a disgrace to be concealed, rather than as a serious and lamentable disease calling for treatment in its earliest stages,—these are but a few of the matters concerning which the doctor ought, in the routine of his daily work, to make a deep impress on the people at large." Mr. Page is quite right here, and the people are beginning to listen to the doctor as a preacher who has some good news to bring as to our condition here upon earth. It is quite time in very deed that the doctor, as the representative of the knowledge of the natural man, should have his audience and be listened to with attention.

Beyond the strictly localized excitement caused by the opening of the medical schools, there is little of special interest going on. The Medical Society opened its present session by an address from the president, followed by an abstract of the essay on Pyæmia to which the Fothergillian Medal of the Society was awarded last spring. The gentleman to whom the honor fell is Dr. Peter M. Braidwood, who is well known for his researches as to the changes produced by zymotic disease in the skin, as to vaccination, and as to pyæmia. Some years ago he secured the Astley Cooper Prize for his researches on the last subject. The new material of his prize essay consisted of a series of experiments performed upon animals, and observations founded thereupon as to the artificial production of pyæmia. The fluids used were the lochial discharge from parturient women, and Burdon Sanderson's septic solution of muscle. Careful microscopic preparations illustrated the changes so set up in tissues, especially the viscera,

from the first plug in a blood-vessel, to the ragged cavity left by the breaking down of tissue. The precise forms which the pyæmic process took on were affected considerably by the sort of septic agent employed; and the solution of muscle produced more certainly deadly changes than those set up by the lochia. A great deal yet remains to be done before the obscure subject of pyæmia is cleared up. It is found in midwifery practice that pyæmia is not rarely due to the adhesion of some of the foetal membranes to the uterus too tightly to admit of the offending matter being washed away by any injection, and that the introduction of "the carbolized hand" for its removal is necessary, and that after the piece of membrane has been thus removed, amelioration of the symptoms often follows. Indeed, in some cases it would seem that by such procedure the patient is snatched from an almost hopeless condition.

The subject of all others which has excited the professional mind lately has been the trial and condemnation of four persons, two males and two females, for the wilful murder of the wife of one of the men by deliberate starvation. The features of the case were of remarkable repulsiveness, and will be doubtless more or less familiar to your readers. The decision, which was "guilty" against all four prisoners, turned upon the medical evidence given; and certainly the profession has figured conspicuously in the case, but whether in a fashion which redounds to its credit or not may be gravely doubted. The doctor who is called upon to attend the deceased goes out to a concert and supper-party, and, when he comes home and finds that urgent messages have been sent to him, goes off to bed without attending to the call, alleging under cross-examination in the witness-box that he supposed they would have gone for some other doctor; and yet they had brought the woman up from the country specially to be under him. Then a certificate of death is written, but, on the authorities questioning it, it is withdrawn. The certificate stated that the woman died of "cerebral disease." An inquest is held, and the post-mortem examination conducted so inefficiently that it is not known for certain whether the woman died of starvation, of tubercular meningitis, or, as a few eccentric persons stoutly maintain, of general paralysis. On account of the moral features of the case, there was a tremendous outburst of popular wrath against the prisoners, and some difficulty was experienced in getting some medical expert evidence for the defence which was set up,—viz., that death was due to tubercular meningitis. However, some *bonâ fide* evidence was forthcoming at the trial, and then a sad spectacle followed. The profession was split up into parties, some going for the starvation hypothesis, others holding the view

that the filthy condition of the deceased woman was entirely due to the effects of tubercular meningitis. The real trial came on after the verdict was pronounced. The verdict had turned on the medical evidence tendered at the inquest and the trial, therefore the profession must make itself heard. One medical journal rushed at once to the front against the verdict. Another as stoutly upheld the verdict. The world suddenly awakened to a lively interest in the subject of tubercular meningitis; public meetings were held, where a number of the medical men present made up for the small scientific value of their opinions by the decisiveness of their statements. Some really good men were against the verdict and gave weight to the objections raised: the tumult gathered force: a memorial signed exclusively by hospital physicians and surgeons was presented to the Home Secretary by Sir William Jenner, whose single-heartedness of purpose no one will for one moment call in question, and at last the prisoners were relieved. The striking matter of the whole question is this: the various opinions held are not founded upon the examination of the encephalic tissues of the deceased, but are based upon interpretations as to what could be the real state of affairs from what was said by the medical men present at the post-mortem examination. A more melancholy spectacle the profession has rarely presented for the derision of its enemies and the scorn of the scoffer. The predominant medical opinion is that there was undoubtedly great and criminal carelessness and neglect, but that it is doubtful if ever the prisoners distinctly formulated the idea of killing the woman, or only neglected her from indifference. If only the latter, the death-penalty was too severe a punishment for the offence. Certainly there were obvious and potent enough reasons for getting the poor woman out of the way by some means or other; but, it was alleged, if all the persons who had an interest in getting rid of other people were liable to be tried for deliberate murder because they did not do all in their power to prevent their dying, trials for murder would be going on incessantly throughout the length and breadth of the land. Whatever may be the decision ultimately arrived at, it is certain that it will be long before the last word is spoken about this *cause célèbre*.

The other subject is the destination of Cleopatra's Needle, which is being brought over to England at the sole expense of a well-known member of our profession, viz., Erasmus Wilson, F.R.S., Professor of Dermatology in the Royal College of Surgeons. The learned professor took an interest in the fallen obelisk on which Jacob and Joseph must have gazed, and determined to give it a suitable habitation in another country and amidst a totally distinct race of men. The interest in the subject has been heightened by the fact

that the obelisk ship was cast adrift in a terrible gale off Cape Finisterre. The investment of so large a sum from professional earnings in a national subject of such a character is novel,—the endowment of hospitals being quite common. Professor Wilson has a world-wide reputation as an authority on diseases of the skin. It is not so generally known that he is the author of some anatomical works of great value. His "Dissector's Manual" was in great vogue some years ago. But his work on "Diseases of the Skin," and the accompanying plates, are still in great repute. A popular work on the diseases of the skin has gone through numerous editions and made his name a household word in England. Professor Wilson has for many years done a very large and lucrative practice. A few years ago he endowed a chair in Dermatology in the Royal College of Surgeons, himself becoming the first professor, at a cost of five thousand pounds. Now he has spent more than double that sum in the attempt to bring the obelisk of Thothmes III. from its native land. After many vicissitudes by land, it has experienced grave danger by water: however, it is at present safe at Ferrol, where it may undergo a long detention,—perhaps long enough to let the authorities decide where the great dermatologist's treasure shall finally be placed.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, SEPTEMBER 27, 1877.

The PRESIDENT, DR. H. LENOX HODGE, in the chair.

Tumor involving submaxillary gland, removed by operation. Presented by DR. NANCREDÉ; notes by DR. FENTON.

J. McB., æt. 47 years. Occupation, dyer. General condition, very good. Admitted to the Protestant Episcopal Hospital September 17, complaining of a dense hard growth (three inches by two and a half inches) situated in left submaxillary space and adherent to the bone. First noticed three months since as a small "kernel" in the neck. No pain. Two years since, an epitheliomatous growth (one inch square) of two years' duration was removed from the centre of the lower lip. This tumor caused pain by its presence. One year since, another of these tumors, about half the size of a walnut, was removed from the lower lip a little to the right of the left commissure. He states that his maternal uncle had such a growth on the lower lip. It was extirpated and never returned. There is no history of syphilis. The specimen was removed September 18, 1877, along with two inches of jaw-bone. The patient has since done exceptionally well.

Report of the Committee on Morbid Growths.—"A microscopical examination of the tumor presented by Dr. Nancrede, and referred to Committee on Morbid Growths, is seen to consist of fibrillar connective tissue, grouped into bundles of various sizes. The cells are comparatively few in number, spindle-shaped and nucleated. The growth may be classed among the connective-tissue fibromata. An examination of the gland removed with the tumor shows an infiltration of a similar character.

"October 25, 1877."

Fibrous tumors of the uterus—calcareous tumor of the uterus—polypi of the uterus—encysted dropsy of the peritoneum. By DR. H. LENOX HODGE.

This specimen is unusually interesting on account of the varieties of uterine tumors which it presents, and because of the great rarity of cases of encysted dropsy of the peritoneum.

It was removed from a woman about 50 years of age. She had never married. Her menses had ceased about four years ago.

The tumor was first discovered by her family physician some nine years ago, in the upper part of the right inguinal region. There had been a slow increase until within the last four or five months, when the increase became rapid. Early in July last, ascites was first detected: the fluid increased so rapidly that on the 31st of July she was tapped, and eleven pints of a thin straw-colored fluid were removed. The fluid contained a large quantity of albumen. The fluid accumulated rapidly, and again on the 29th of August she was tapped, and sixteen pints of fluid, similar to the other, were removed. The fluid formed again, and she died from exhaustion September 22.

A *post-mortem* examination was made forty hours after death. About eighteen pints of straw-colored fluid were found in the cavity of the peritoneum. The peritoneum was everywhere very much thickened and studded with little prominences, apparently the result of inflammatory action. Strong bands extended from the liver downward and to the right as far as the ilium, and completely separated this portion of the peritoneal cavity from the rest. Even when the fluid was removed from the space below these bands, it remained without leakage in the space above them, and constituted a complete encysted dropsy of the peritoneum.

These portions of the liver, spleen, large and small intestines, and uterus have been brought to exhibit the condition of the peritoneum above described.

The uterus with its tumors so completely filled the cavity of the pelvis, and was so universally adherent, that it could only be removed by stripping the peritoneum from the abdominal walls and pelvis, and then taking away all the pelvic viscera in mass, and the parietal peritoneum with them.

The uterus was exceedingly enlarged, and

everywhere in its walls were fibrous tumors, varying in size from that of a marble to that of an orange. Some of them were sub-peritoneal, some in the midst of the walls, and some of them sub-mucous. Many of these tumors had undergone fatty degeneration. One large one had been reduced almost to fluid contents, and in the interior of the cyst thus formed there was a calcareous tumor attached to the wall, about the size of a walnut.

The cavity of the uterus was much enlarged, and contained within it two large polypi. Each of these was about nine inches in circumference and three inches long, and attached to the uterine wall by a narrow pedicle. The lower of these polypi was narrow at its lower extremity, and reached to the internal os uteri. It completely prevented the passage of a probe, even when the attempt was made after the uterus had been removed from the body and placed upon a table.

The following memoranda are the results of a microscopical examination made by my friend Mr. B. Mosquera:

Portion from walls of uterus.

1. Spindle-shaped connective-tissue cells, with a granular protoplasm.
2. Small round granular cells.
3. Bands of wavy fibrillar connective tissue, intermingled with connective-tissue corpuscles.

Contents of cyst formed by degenerated fibrous tumor.

1. Granular matter.
2. Small round granular cells.
3. Oil drops.
4. Débris of spindle-shaped cells.
5. Fatty infiltrations and fatty degenerations of connective tissue.

Surface of polypus.

1. Numerous round granular cells arranged in groups.
2. Large number of oil cells.
3. Fatty degeneration of villi.

Report of the Committee on Morbid Growths.

—"A microscopical examination of the uterine new formations presented by Dr. Hodge shows them to consist of firm, dense fibrillar connective tissue, arranged in bundles running in every direction. The blood-vessels have their walls greatly thickened by an increase of fibrous tissue, and they are few in number. This structure demonstrates the growths to belong to the fibromata.

"From a macroscopical examination, some of the growths are seen to have undergone a calcareous infiltration, others a cystic degeneration. The nodules developed in the peritoneum are the result of an inflammatory process.

"October 25, 1877."

Large tumor of the left superior maxilla, involving nasal and orbital cavities and frontal sinuses, removed by operation. Presented by Dr. J. EWING MEARS.

Dr. MEARS presented the specimen of a

large tumor of the left superior maxilla, removed from a patient in St. Mary's Hospital.

Dr. CLUNAS, resident physician, obtained the following history:

"Jas. R. D., æt. 46 years, bricklayer by occupation, of moderately temperate habits, healthy and robust-looking. Family history in general was good. He had heard that his great-grandmother had what was called a cancerous affection of the face.

"In or about the year 1864 his attention was for the first time directed to a growth in the left nostril, about the size of a pea, and apparently pedunculated.

"Six or eight months afterwards, the growth not having appreciably increased in size, an attempt at its removal was made, but abandoned on account of hemorrhage.

"Patient was able to continue at work until two and a half or three years ago, the tumor meantime increasing in size, gradually pushing its way outward and upward, forcing the eyeball from its cavity over towards the zygoma.

"During this time the patient had employed large quantities of proprietary medicines, also poulticing the growth.

"The tumor itself had been painless, although at times he had experienced neuralgic pains attributable to pressure, and also complained of pain from conjunctivitis. No ulcerative tendency had been exhibited. Occasionally slight hemorrhage had taken place from the left nostril. Formication was present.

"Within six months the entire alveolar process of the left jaw had been involved, the teeth becoming displaced. Eighteen months previous to his application for relief at the Hospital, the second and third molar teeth had been extracted, being very much decayed."

The area of the growth was from half an inch to the right side of the median line of the face to a point one and a half inches in front of the lobule of the left ear, measuring in this direction seven and a half inches. From above downwards, extending from one inch above the line of the infra-orbital border to within one inch of the lower border of the lower jaw, it measured six inches.

The external surface of the tumor was reddish, the integument being filled with small venous radicles. It was also lobulated (especially towards the inner portion), soft and elastic, this elasticity being more marked at some points than at others. At the extreme upper border externally a thin plate of bone could be felt.

After consultation with Dr. S. H. Griffith, attending physician to the Hospital, who kindly referred the patient to me, I determined to remove the tumor. For this purpose the incision suggested by the late Sir William Fergusson for removal of the upper jaw was employed, and the growth fully exposed. So entirely was the osseous tissue destroyed by

the tumor that it was only required to saw through the hard palate, the mass being then readily turned out of its place. It was very soft and friable, portions of it being detached by the slight effort made to dislodge it. It was found to have penetrated the orbital cavity, completely displacing the eyeball, entered the frontal sinuses and expanded these cavities to a marked extent. Absorption of the vomer and the left lateral mass of the ethmoid bone had taken place, so that the growth came in contact with the floor of the cranium. On examination this surface was found soft and easily broken down. The hemorrhage was very slight, but one vessel requiring ligation. The patient recovered well from the shock. The external wound was closed almost entirely by adhesion, and the internal surfaces were healing rapidly, when meningitis supervened on the twelfth day and caused death. To Drs. Griffith and Clunas I am greatly indebted for the faithful manner in which they conducted the after-treatment in this case.

Report of the Committee on Morbid Growths.

—"The specimen presented by Dr. Mears, removed from the superior maxillary region, by microscopic examination is seen to consist of epithelial cells, grouped in alveolar spaces; which spaces are formed by thin bands of fibrillar connective tissue. The cellular element is greatly in excess of the fibrous; from which, and the grouping of the cells in alveoli, the growth may be considered a carcinoma, variety encephaloid.

"October 25, 1877."

Specimen of large ulcer of the neck, involving the submaxillary gland, removed by operation.

Dr. J. EWING MEARS presented a growth, in a state of ulceration, which he had removed from the neck of a patient in St. Mary's Hospital.

The patient, 30 years of age, a laborer in the coal-mines, states that three years since his lower lip was severely frost-bitten, for the relief of which caustic agents were applied. Following this condition of the lip, a small ulcer appeared at the left angle of the mouth on the lower lip. About six months after the lip was frost-bitten he was struck by the handle of a shovel on the left side of the neck. A small swelling appeared two days after the receipt of the injury, which grew to the size of a pigeon's egg, when it broke and discharged a thin, bloody fluid.

The ulcer on the lip increased in size, and was removed in April of this year. An attempt was made by the surgeon to remove the growth in the neck at the same time, but the operation was not completed. Caustics were applied to remove the portion not excised by the knife. The wound in the lip healed promptly, and thus far there is no sign of a return of the growth. The wound in the neck did not entirely heal, a small ulcer remaining. During the summer this began to

increase in size, and the patient, becoming alarmed, returned to the city and came to St. Mary's Hospital for relief.

On examination the growth was found to be as large as a hen's egg, penetrating deeply into the structures of the neck and occupying to a greater or less extent the superior carotid and submaxillary triangles of the left side of the neck. The carotid artery in its superior portion was covered by the tumor, but did not impart a pulsatile character to it. In the act of deglutition the growth moved with the larynx, in this manner indicating its attachment to it. The ulcerated surface was about the size of a half-dollar, and discharged laudable pus. Three weeks after admission the growth was removed, the dissection required to accomplish this being very extensive and exposing the entire anterior triangle of the neck. It was necessary in this dissection to remove the sheath of the carotid artery and internal jugular vein, with the descendens noni nerve, the anterior portion of the omohyoid muscle, the submaxillary gland, and finally to detach it from the larynx. The facial and lingual arteries, with some smaller branches, required ligation. The hemorrhage was not great, and was easily controlled.

The large wound left was very much reduced by sutures, and the cavity was packed with lint saturated with carbolic oil. At this time the wound is rapidly filling up with healthy granulations.

Report of the Committee on Morbid Growths.

—"A microscopic examination of the specimen presented by Dr. Mears shows at and around the ulcerous part an inflammatory infiltration into the connective tissue. A section taken from the deeper portion is seen to consist in part of lymphoid cells, characteristic of a sarcoma.

"An examination of the submaxillary gland shows it to be the seat of an inflammatory infiltration.

"October 25, 1877."

GLEANINGS FROM EXCHANGES.

SURGICAL ANATOMY OF THE OBTURATOR ARTERY (*The Medical Record*, October 1, 1877).—Dr. John A. Wyeth and Mr. William L. Wardwell make the following deductions from an analysis of twenty-seven consecutive dissections of the arteries in the male and twenty-six in the female pelvis:

1st. That anatomists giving the origin of the obturator artery from the posterior trunk of the internal iliac are positively wrong, the vessel not originating from this point in more than ten per cent.

2d. That in females it will be derived from the deep epigastric in one of two or two and a half cases.

3d. That in males it will be from the deep epigastric in one of four or six cases.

4th. That the *obturator vein* is found to empty into the *external iliac* or *epigastric vein* in a much greater proportion of cases than the artery is found to originate from the *epigastric* or *external iliac*.

5th. That the advice to "feel for the pulsation of this artery before cutting Gimbernat's ligament" (as is frequently given) seems unnecessary, since the insertion of the finger through the constricted canal, completely filled by the intestine, *that has for this reason become strangulated*, is impossible until *after the section is made*.

6th. That, although the conditions in which the *obturator artery* is found to the inner side of a femoral hernia rarely exist, the operation should be made with every regard to this abnormal arrangement.

CAUSE OF DIFFICULT MICTURITION IN OLD MEN (*The Canadian Journal of Medical Science*, October, 1877).—According to Dr. Busch, frequent or difficult micturition in old men may depend not only upon hypertrophy of the prostate, as is generally believed, but also upon hydrostatic causes, which he claims to have demonstrated by a number of preparations. In youth, the sphincter vesicæ is quite close to the point at which the opening force is most exerted. But little of the propulsive power is therefore lost, and the stream can be projected to a considerable distance. At the period of puberty the sphincter is farther backwards, and the urethral walls must therefore be much more distended. Some propulsive force is thus lost, and the stream is less forcible. Should an hypertrophy of the prostate be now developed, the internal orifice would be found upon an elevation, which dips downward in all directions, but particularly backwards, where more or less deep depressions are liable to be found. If the bladder now contract, the force is exerted not only around the internal orifice, but also upon the lateral depressions: this would naturally tend to close the urethra still more. The ability of the patient to pass his urine without the assistance of the catheter will now depend entirely upon the preponderance of the force exerted from above, over that from the lateral parts of the bladder. It is clear, then, that this difficulty, although usually associated with hypertrophy of the prostate, may occur without any such enlargement, and may exist as a simple depression. The proper treatment to be pursued seems evident. Frequent micturition may prevent the formation of these hollows; the catheter should therefore be diligently employed from the time the affection first manifests itself.

TWO PECULIAR VARIETIES OF HYDROCELE OF THE CORD (*The Lancet*, October 13, 1877).

—At a recent meeting of the Royal Medical and Chirurgical Society, Mr. Furneaux Jordan called attention to the different varieties of hydroceles in the scrotum, and their various combinations, and referred to the origin of

hydroceles of the cord, to which he limited his remarks. He considered them due to an imperfect obliteration of the peritoneal prolongation which took place along the cord from the internal inguinal ring to a point a little above the testis. This obliteration begins at two points, the ring and near the testis, and, if incomplete, fluid may collect in the unobliterated space, forming a spherical enlargement, which is movable from the testis. Transparency is present, but is distinguished with difficulty, unless in the lithotomy position. The disease is most frequent in early life, and is called "encysted hydrocele of the cord," probably to distinguish it from the so-called "diffused" variety. Of the two peculiar varieties now referred to, the first is a so-called encysted hydrocele of the cord, connected with the abdominal cavity by a long, fine tube; the second, an encysted hydrocele of the cord, with a fine tubular prolongation upwards, which ceases near the external ring, not communicating with the abdomen. The point of interest in the first case is the communication of the hydrocele with the abdominal cavity by means of a fine tube of unobliterated serous membrane; in the second, the existence of a tubular prolongation running upwards, but ending in a blind extremity outside the inguinal ring. In the first case a truss was applied; in the other acupuncture was resorted to, and proved successful after two or three repetitions. The globular collection of fluid with the upward neck-like prolongation suggests for it the name of "water-bottle hydrocele of the cord."

A CASE OF IMPERFORATE ANUS WITH FISTULOUS OPENING INTO THE BLADDER (*Medical Record*, October 6, 1877).—On April 11, 1876, a male child, two days old, was brought to Mr. Rowan, at the Melbourne Lying-in Hospital. On examination, an imperforate condition of the anus was found; there was no depression or mark to indicate its usual position. The abdomen was distended, tympanitic, and very tender. On the next day chloroform was administered, and an incision was made in the centre of the fundament, and, after cautiously dissecting to a depth of two and a half inches, the rectum was reached. An opening was made into it, and a large quantity of meconium and flatus escaped. The wound was kept open for a week with oiled lint, and a large bougie was subsequently passed every second or third day. Mr. Rowan shortly afterwards lost sight of the child, but it was brought back to him on the 1st of last February, in a worse condition than in the preceding April. The bougie had not been passed for three months, and for two months the child had passed nothing by the natural passage, all the motions escaping through the penis until the previous day, when the foreskin became so narrow that the child could not pass even water without great difficulty. Examination showed that the anus was

closed about an inch from the orifice, and revealed in addition complete phimosis. Circumcision was performed, and a few days later the former passage into the rectum was reopened and enlarged sufficiently to allow the finger to be passed in. The rectum was found filled with hard fæces, which did not come away until the next day. After the operation the finger was passed every day, and at the present time the canal seems perfect. Mr. Rowan thinks that a second operation would not have been required in this case if he had made the opening large enough at first to allow the finger to be inserted easily. The fact that defecation occurred through the bladder and penis for two months without causing cystitis or urethritis, is curious.

FRACTURE OF BOTH CLAVICLES IN AN OLD MAN (*The British Medical Journal*, September 29, 1877).—An old man fell from a scaffold thirty feet and fractured both his clavicles, but sustained no other injury. A thick elongated pad was passed under each arm and embraced the shoulders; the ends of both pads, being united behind, forcibly retracted the shoulders and retained them in position; the fractured ends of the clavicles were thus brought into apposition. The arms were then bandaged to the body, with the elbows drawn well backwards, and the man was placed on a water-bed in the supine position. The water-bed proved very useful as a means of keeping the man quiet by preventing him from turning on his side and so displacing the bandages. He was kept thus for three weeks, with an excellent result.

VALVULAR DISEASE OF THE HEART WITH DILATATION OF THE AORTA (*The British Medical Journal*, September 29, 1877).—An old-looking man, a farm-laborer, aged 54, complained of troublesome cough and great difficulty in breathing, coming on in attacks if he moved about, and especially if he went up hill. He complained of no pain, dysphagia, or other sign of intrathoracic pressure. He had been able to continue his work till a month before admission to the hospital. He had never had rheumatic fever, and the only illness he remembered was an attack of dropsy in the legs twelve years ago. Physical examination showed a locomotor pulse, well seen in each radial artery and at the bend of the elbow; the pulses were equal and regular. The heart's impulse was heaving and forcible; evidently the heart was much hypertrophied, and the apex-beat was displaced outwards and downwards. The area of cardiac dullness was not enlarged, though the shock of the cardiac impulse was felt over a large area; this appeared to be due to the hypertrophied heart being overlapped by an emphysematous lung. The carotids were not seen to throb; but in the supra-sternal notch between the sterno-mastoids a large blood-vessel was distinctly seen pulsating as it rose

out of the thorax at each systole, and the finger placed over it appreciated a distinct and prolonged thrill. There were also signs of disease of the aortic valves and mitral regurgitation. On listening over the vertebra prominens, loud tracheal breathing was heard as if from the windpipe being pressed backwards by a tumor in front; the voice also at this spot was very tubular. The aorta appeared to be dilated without the formation of any sacculated aneurism.

MISCELLANY.

BALSAM FOR THE PREVENTION OF SYPHILITIC INFECTION.—(*Annal de Polli; Allg. Med. Cent.-Ztg.*, No. 74, 1877).—Chloral hydrate, acid salicylic, glycerine, and sulphate of sodium, aa one and a half parts; aq. dest., four parts; spts. vini, one part, to be heated to 40°, and thus kept for a few minutes till the complete solution of the sulphate of sodium, then filtered, and to have sufficient water added to keep a perfect solution. Prior to coitus the organ is to be bathed in this, which will form a light coating and by its chloral vapor will remove all danger of infection.—*The Clinic*.

METHODS OF PRESERVING BODIES PRACTISED IN LONDON.—At Guy's Hospital the process employed consists of first injecting a quart of watery solution of arsenic, then a quart of an arsenical solution of the same, whilst finally eight quarts of ordinary glycerine are injected. The bodies, soaked over with glycerine, are then sealed in mackintosh and placed in ordinary shells. The general result has been extremely good, the few exceptions being those of bodies parts of which had become decomposed before they could be injected, or which had subsequently, from some accident, become desiccated. It is noteworthy that bodies prepared by the above method admit of being injected with paint three or four months after their first preparation.

At St. Bartholomew's Hospital, bodies are preserved in Garstin's Fluid.

At King's College, Stirling's process is adopted. Each body is first injected with at least ten pints of a solution containing one pound of arsenic and about six ounces of carbonate of potassium. About one-third of this solution is injected very slowly by means of hydrostatic pressure. The solution being raised about four feet above the level of the body, on the fourth day the "paint" is injected as usual. The whole body is then carefully covered by means of bandages soaked in carbolic oil, and is subsequently kept in a cool, damp chamber.

At St. Mary's Hospital the stomach, small intestines, and spleen are first removed; then the abdominal cavity is filled with cotton-

wool saturated with a mixture of four drachms of carbolic acid to one pint of methylated spirit. The extremities are wrapped in separate pieces of cotton cloth dipped in spirit, and the whole tightly bound up in mackintosh. The arteries are injected first with a saturated solution of arsenious acid in boiling water, and then, whilst this is still warm, a mixture of size, vermilion, and plaster of Paris is thrown into them. The result of this method of preservation is most satisfactory.

HOT-WATER INJECTIONS IN UTERINE HEMORRHAGES.—M. Ricord says in the *Union Médicale*, June 5, "Hemorrhages in general, and metrorrhagias in particular, whatever may be their proximate cause, are, as is well known, very frequently difficult to arrest. Hæmostatics given internally, astringent injections of every description, plugging, etc., generally fail. But one means has almost had infallible success in my hands, viz., the injection of hot water at 50° C. (122° Fahr.), carried directly against the cervix uteri by aid of the tube of an irrigator from which the caoutchouc canula has been removed."—*The Doctor*.

PHOSPHIDE OF ZINC IN HYSTERIA.—Dr. Em. Gros (*Le Mouvement Médical*) speaks of a case of long-continued hysteria cured in five days by phosphide of zinc. Four to eight milligrammes (one-fifteenth to two-fifteenths of a grain) in granules were given with food twice a day. The proportion of phosphorus in the phosphide is 1 in 8.—*The Doctor*.

A TOUGH SUBJECT.—Mr. W. F. Murray records (*Indian Medical Gazette*, September 7) the case of a man bitten in the abdomen by a crocodile, left without care four days, admitted to hospital with seven inches of omentum protruding and afterwards becoming gangrenous, and yet recovering.

PODOPHYLLIN.—Professor Rothrock states that one fact in regard to the May-apple is often overlooked, and that is, that the leaves are just as active as the root. If the leaves are cooked and eaten as a pot-herb, very violent and dangerous symptoms may be produced. The same fact holds true of *bloodroot*, the leaves being as active as the root.—*The Doctor*.

IN Germany it has recently been legally decided that any druggist who, without direct sanction from the physician, renews a prescription containing any powerful ingredient, subjects himself to severe penalty.

Two deaths having recently taken place in Dublin in which the parties were choked by a piece of meat sticking in the throat, Dr. Beveridge, R.N., writes to one of the local papers to state that a well-authenticated case of recovery from choking under similar circumstances has been detailed,—the guiding principle with the view of expelling the foreign body being the induction of reflex action by "blowing in the ear."

DR. ANGUS HALDANE has been elected

Ordinary Physician for Diseases of Women in the Edinburgh Royal Infirmary, *vice* Dr. Matthews Duncan, resigned.

IN an editorial notice of a recent rambling and irrelevant communication to the *New York World* on the subject of Medical Culture, written and signed by a New York physician, the *Medical Record* winds up with the following suggestive quotation and remark: "As an incentive to look at the top of the profession, or 'up aloft' for success, we are informed that 'he who seeks the professional aid of the loftiest is pretty sure to seek that which is efficient, and which will not be withheld from him,' and then, after a concluding sentence, follow the name and office address of the writer."

SÉE recommends with confidence a combination of digitalis and iodide of potassium in the treatment of cases of great sexual excitability with tendency to hypochondria, etc., where, for instance, erection and ejaculation are produced by sight, touch, or thought about one of the opposite sex.

THE total number of medical students this year in London is 1879, against 1793 last session,—an increase of 86.

NOTES AND QUERIES.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

The Committee on Lectures of the College of Physicians give notice that they are ready to receive the names of candidates for the now vacant position of Lecturer.

JOSEPH LEIDY, M.D.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM NOVEMBER 4, 1877, TO NOVEMBER 17, 1877.

HAMMOND, JNO. F., LIEUTENANT-COLONEL AND SURGEON.—Granted leave of absence for six months from November 1, 1877. S. O. 227, A. G. O., November 6, 1877.

FORWOOD, W. H., MAJOR AND SURGEON.—Assigned to duty as Post Surgeon at McPherson Barracks, Atlanta, Ga., relieving Surgeon Bill. S. O. 175, Department of the South, November 3, 1877.

STORROW, S. A., MAJOR AND SURGEON.—Relieved from duty in Department of California, and to report in person to Commanding General, Department of the Platte, for assignment. S. O. 232, A. G. O., November 13, 1877.

BUCHANAN, W. F., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Chattanooga, Tenn. S. O. 176, Department of the South, November 6, 1877.

KINSMAN, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post Surgeon at Mount Vernon Barracks, Ala. S. O. 163, Department of the Gulf, November 4, 1877.

BARNETT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 166, Department of the Gulf, November 9, 1877.

SHUFELDT, R. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To accompany companies of 5th Cavalry to Fort D. A. Russell, Wy. T. S. O. 126, Department of the Platte, October 29, 1877.

EDWARDS, L. A., LIEUTENANT-COLONEL AND SURGEON.—Died at Washington, D.C., November 8, 1877.